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ABSTRACT

Intonation refers to the rise and fall of the pitch contour within a given tone group as distinguished from paralinguistic vocal features which refer to aspects like placement of contour in the pitch range of an individual, pitch span, loudness/softness, and features of voice quality. Intonation and paralinguistic vocal features perform at least six functions in spoken language. A controversial function frequently attributed to intonation is that of the question function, which is discussed in relation to the rising tone. The effect of intonation on commands is discussed in an attempt to define the question function and it is proven that in spite of the intonation, paralinguistic and sentential changes, the utterance will still have the force of a command. The deduction is that it is the constitutive conditions which determine the function of the utterance in a command. Applying this to questions, it is true that intonation, together with other paralinguistic features, can modify the force of an utterance to some extent, but it is the paralinguistic features which perform the most effective modification. Rising intonation is taken out of its traditional association with questions and put into association with the category of turn-taking mechanisms to emphasize that intonation has no power to change speech function. (NCR)

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FOCUS ON SPOKEN LANGUAGE

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THE FUNCTIONS OF INTONATION

1. Intonation and paralinguistic vocal features [FN]

In this paper I am going to draw a distinction between some of the features which have often been grouped together under the term 'intonation'. I shall distinguish intonation and paralinguistic vocal features. I take intonation to refer to the rise and fall of the pitch contour within a given tone group, together with some aspects of amplitude and duration. I then use the term paralinguistic vocal features to refer to aspects like whereabouts in the pitch range of an individual a given contour is placed, the pitch span of a given tone group relative to the normal pitch span of the individual, the loudness/softness and rapidity/slowness of articulation in a given tone group relative to the norm for the individual, features of voice quality like 'breathy voice', 'harsh voice', 'creaky voice' etc. and other features which affect the speech signal like nasalisation and lip posture (as in smiling, pouting etc.). (For further discussion of this distinction cf. Brown, 1977.)

2. Functions of intonation and paralinguistic vocal features

I assume that intonation and paralinguistic vocal features perform at least the following functions in spoken language:

i) Intonation chunks structures which are to be co-interpreted semantically and syntactically into units within one overall pitch contour. I shall refer to such semantic/syntactic structures as information units (following Halliday,

1967) and the phonological forms which demarcate these structures as tone groups.

ii) Together with paralinguistic vocal features, intonation chunks sequences of information units which have internal discoursal coherence and require to be interpreted with respect to each other (most obviously exemplified by relationships of subordination and co-ordination) into a series of tone groups placed within an overall tonal contour, a paratone. Paratones in speech are typically shorter than those in written language. Successive tone groups within a paratone are typically placed in a descending sequence within the pitch range of the individual, and tone group initial unstressed syllables will tend to be at around the same pitch level as preceding tone group final syllables. The final pitch of the final tone group is typically low. The relationship between the tone groups within a paratone is, then, held to be describable in terms of paratonic structure.

iii) Together with paralinguistic vocal features, intonation marks, for the listener, a change of topic since the speaker typically embarks on a new topic high in his pitch range. The end of a topic is typically marked as extra-low. In the course of a speaker's development of one topic he may construct several paratonic structures. I suggest here, then, a hierarchical structure in which a topic unit contains at least one speech paragraph (realised within a paratone) and a speech paragraph contains at least one information unit (realised within a tone group). The topic unit is the maximal unit which is structured by pitch phenomena within an overall grouping.

iv) Together with paralinguistic features (and here may be included features other than vocal features -posture changes and eye contact, for instance) intonation marks the taking over, maintenance and giving up of turns in conversation. The features which perform this function appear to be those same demarcative features which I have described under ii and iii above. However, later in the

discussion, I shall attempt to justify adding a further intonational characteristic to this function.

v) Together with paralinguistic vocal features, intonation may be manipulated to emphasise or make prominent a particular stretch of speech. For instance a particular word may be uttered very softly breathily and low in pitch range, in contrast to its contextualising words, or the discourse may suddenly be chunked into a series of very short units after a run of longer units.

vi) Together with paralinguistic vocal features, intonation may be used tc express the attitude of the speaker both towards his hearer (kind, friendly, distant, etc.) and towards his message (serious, frivolous, astonished, etc.). I believe that it is the paralinguistic vocal features (together, obviously, with other paralinguistic features) which are primarily responsible for the expression of attitude. However there are some intonational features which are conventionally associated with particular ranges of attitude - for instance a falling-rising tone, together with a 'warm' voice quality and a smile are characteristically used to encourage.

There will, I think, be little disagreement with the list of functions of intonation and paralinguistic vocal features that I have mentioned so far. There is, however, a further function which is frequently attributed to 'intonation' which I would like to explore in greater detail and I turn to this in the next section.

3. Intonation and speech function

I do not wish to add to the plethora of terms being used in ways more or less specific to their author, so I shall now use the general term 'function' in another sense in which it is commonly used. I shall draw the familiar distinction between <u>form</u> and <u>function</u> (cf. for example, Quirk at al. 1972). I shall recognise, then, to begin with, declarative,

interrogative and imperative forms on the one hand, and statement, question and command functions on the other, and we will note that an unmarked relationship has been held to exist between the pairs declarative/statement, interrogative/question and imperative/command. Similarly an unmarked relationship has been held to exist between statements, commands and questions realised with initial WH words and falling intonation, and yes-no questions and rising intonation. These relationships have, of course, been postulated to hold for sentence tokens cited in isolation from any context, and there is a certain amount of experimental evidence which indicates that these stereotypes do hold for sentences in isolation. In natural discourse it is of course rare to find interrogative forms of either type uttered with rising intonation (cf. Kenworthy, to appear). Since the examination of discoursal form-function relationships is only now seriously beginning, I shall limit much of my discussion to the familiar class of sentence tokens cited in constructed contexts.

The question I want to pursue in this paper is the relation between rising tone and question function. This is a relation which is widely assumed (cf. for example, Qurk et al., 1972 where a rising tone is listed as a formal marker of question function, together with the formal syntactic markers of interrogative structure). However, since question function is by no means easy to define, let us ease our way into the discussion by considering the effect of intonation on commands, since 'command' seems a good deal more accessible as a notion than 'question'.

I shall begin by considering the imperative - command - falling tone relationship. Let us assume that normal constitutive conditions on commands obtain - that is that A wished B to perform x, that A believes that B would not perform x without being asked, that A believes that B is able to perform x, that A believes that his role with respect to B is such that he can properly ask B to perform x, and so on. Having set up this ideal situation then, let us allow A to

produce a straightforward command with imperative form, falling intonation and the paralinguistic features appropriate to a command (i.e. not pouting, laughing, winking, etc.):

Close the door

The question we shall consider then is, if we change the intonation contour, can we change the function of this utterance? Remember that all the constitutive conditions still hold and the paralinguistic features are unchanged - A still speaks with a straight face, unmarked voice quality, etc. What happens now if A utters the sentence on a rising intonation? Does it still have the force of a command, or has it become a question? There seems to me no doubt that the utterance still constitutes a command. A still wishes B to perform x. It may be suggested that this is no longer an unmarked form of a command, or even that the force of the command has been somewhat mitigated, and this may be true, but it seems to me quite clear that the nature of the function has not been changed by changing the intonation contour. The speaker could, if he wished, mitigate the force of the command even more strongly - he might smile, speak in a 'warm' voice, softly and kindly. He may also change the sentence form and produce

I wonder if you'd mind closing the door

and still, in spite of the intonation change and the paralinguistic changes and the sentential change, the utterance will have the force of a command. It is the constitutive conditions which determine this. No matter how friendly the speaker may wish to appear and how hard he tries to achieve this effect by manipulating paralinguistic features etc., given that the constitutive conditions remain the same, the force of the utterance remains the same.

We may note, in passing, that though the speaker may attempt to mitigate the effect of command, the listener may

not 'take' the mitigation if he knows something about the context of situation which leads him to believe that they constitute a mere surface gloss. Thus a small boy who is guiltily aware that he has just stolen some apples, entering the study of a headmaster who is renowned for beating small boys who have stolen apples, would be unlikely to find such mitigation very reassuring. Indeed it is a common literary convention that the villain who smiles and smiles and conceals his evil intentions behind a facade of scrupulous courtesy is a good deal more sinister than the bullying blusterer who overtly manifests his wickedness. There may of course be a mismatch between the illocutionary force intended by the speaker and the perlocutionary effect on the listener (following the distinction drawn by Austin, 1961). The speaker may be genuinely intending to mitigate, to set aside his prerogative of uttering a command, and the hearer may be genuinely incapable of assigning this intention to the speaker. The difficulty for the speaker is that there is no way he can change his utterance so that it no longer has the force of a command, except by an explicit, verbal, statement that the listener is not obliged to obey.

I am suggesting, then, that it is the constitutive conditions which determine the function of the utterance. If the speaker wishes to mitigate that function he may call upon a hierarchy of features: first, the paralinguistic vocal (and other non-vocal) features, then intonation, then sentential choice (which I assume for the moment includes lexical selection, thematising and 'empathy' strategies, etc.). The effect of changing intonation or sentential type is much more limited than the effect of changing paralinguistic features and will fail in its intended effect unless supported by appropriate paralinguistic features. That is to say, if a non-imperative sentence form is chosen

> I wonder if you'd mind closing the door
> Would you, perhaps, close the door etc.

and spoken with a rising (or falling-rising) intonation contour, the effect will fail to be polite and friendly unless accompanied by a smile, a 'warm' voice quality and other friendly-seeming gestures. On the contrary, if the utterance is accompanied by turning away the gaze, no smile and spoken with 'harsh' voice and a rapid, clipped articulation, the listener will have every reason to believe that the speaker is not evincing friendliness.

Let us now turn to consider the relationship between question function and rising intonation. 'Question' is a much harder category to identify than 'command'. Clearly the formal categories, which include rising intonation, are going to prove insufficient to enable us to capture function, and indeed the constitutive conditions proposed by some authors are by no means as clearly articulated as those for commands. Nonetheless we are going to have to rely on constitutive conditions to enable us to identify questions, conditions like if A asks a question of B, A must not know the answer to the question and A must suppose that B does know the answer. Clearly questions are 'directive', in the sense of Jakobson 1959, in that they demand some response, either verbal or non-verbal, on the part of the listener. Thus a question does not seem to be the proper termination of a normal interaction. Flouncing out of the room in response to a question leaves both speaker and listener 'in the air', feeling dissatisfied. And, to this extent at least, there does seem to be a relationship between question function and rising intonation - we do not expect a normal interaction to finish with a rising intonation contour. (I am distinguishing here between a rising intonation contour and a falling-rising contour. The crucial phonetic difference lies in the relative height of the end-point of the contour: the rising contour must rise to high in the speaker's voice range, whereas the falling-rising tone must rise only to mid - if it rises to high it must be identified as a realisation of a rising contour.) A farewell consisting of 'see you soon' uttered on a rising contour, and not replied to, would leave

the speaker at least, with a feeling of an unsatisfactory termination.

I have already suggested that there does seem to be some evidence that, in the absence of contextual information to the contrary, native speakers will judge utterances spoken on a rising intonation to be 'questions' and utterances spoken on a falling intonation to be 'not questions' (cf. report of SSRC project on Scottish intonation, 1977). However when the same utterances are presented embedded in the context of the spontaneous speech in which they were originally produced, the same judges will assign the opposite function to these utterances. When the extracts are presented in context the judges have access to previous and following utterances and can work out what the constitutive conditions applying at the time must have been. No such inferences can be drawn from the utterances presented in isolation. In this condition the stereotypic relationship between question and rising contour seems to hold. This relationship appears, however, very rarely in texts of continuous speech. How are we to account for this discrepancy?

One way to account for it would be to suggest that, in general, intonation contours contribute very little to the identification of functions in speech. We might propose, then that a neutral intonation carrier (which in RP is certainly a falling contour) will normally occur in speech, subject to the tonal sandhi phenomena which the contour will be subjected to by the systems realising functions ii, iii and iv above (p. 100). This neutral carrier will occur most of the time. The constitutive conditions, recognised by the participants, will make clear the functions, as the dialogue proceeds. The exceptional situation may arise, however, when the speaker, for some reason, wants to mark question function in a very clear way and chooses to do this by a rising to high intonation contour. This seems to me at least a plausible account and it may be in part correct. I shall outline an alternative approach in a moment.

I will consider briefly the association of rising contour with a sentential form other than an interrogative. It has often been suggested that a declarative sentence structure combined with rising intonation would produce a 'question'. Lieberman (1967) correctly pointed out that this combination produces an odd sort of question type. He suggests that the interpretation of his example sentence -

You're really going to drive down that rutted road?

must be as a warning rather than a question. It seems to me that if the sentence were uttered with appropriate paralinguistic features (breathy voice, raised eyebrows, shining eyes) it might well have the force of an admiring comment, expressed in tones of rapturous admiration. Or, indeed, it could be assigned any one of a number of arbitrary functions. We have no way of 'knowing', in the sense intended, what the function of a sentence presented out of context is. The constitutive conditions in the context must determine how the utterance is 'taken'. It does, however, seem to me that one may make a point about the effect of the rising intonation here and it is the same point that I made with reference to commands: rising intonation demands a response.

I should like to suggest that the power attributed to intonation to change the function of an utterance does not, in fact exist. Thus when Hudson (1975) discusses the unmarked form of questions, promises, etc. and nervously adds on each occasion 'keeping the intonation neutral', I think he ascribes more power to intonation than it possesses. It is true that intonation, together with other paralinguistic features, can modify the force of an utterance to some extent but, as I have tried to show, it is the paralinguistic features which perform the most effective modification. In many of Hudson's examples, the performance of the utterance with the speaker laughing as he spoke would often have a more devastating effect than any intonational modification. But, and this is a crucial qualification, in a real context it may well be that the laugh would still not alter the function of the

utterance, as long as the constitutive conditions remain the same. The difficulty with Hudson's examples lies not in the power of intonation, but in the fact that he is examining sentence tokens out of context. There is no way of specifying the speech function of a sentence token cited out of context, since these functions are essentially discourse functions which arise as a product of all the factors contributing to the discourse - speaker/hearer relationship, context both external and that created by the discourse, genre, topic of discourse, etc.

It seems to me that, rather than attribute the ability to produce 'question function' to rising intonation, we should stay on safer ground and remember what we do know about rising intonation - that it demands a response. It may be objected that this is precisely what questions demand. However if we consider question function to be determined by constitutive conditions, rather than by Jakobson's 'directive' function, we may note that, in questions, A is held to ask of B eg. whether x or not - x is the case. That is to say, A asks B for information on some topic that A does not have information on or asks B to confirm a view of things that A is unsure of. Rising intonation embraces a much wider area than that defined by the speaker requiring information, and in examining discourse, we find rising intonation appearing on information units which cannot be construed as questions in terms of constitutive conditions. I do not think we can safely yoke questions and rising intonation together. Rising intonation appears to have a clear function in the regulation of turn-taking in conversation (heading iv, above, p. 100). It typically appears in turn-final position and demands a response from the interlocutor. I would suggest then, that we include rising intonation under this head as a special, marked, mode of giving away a turn, while clearly showing that this is not the end of the discussion, demanding a response. We may then view those special instances of speakers using rising intonation on interrogative forms during monologues, 'rhetorical questions', as an overt

indication by the speaker that he is constructing a dialogue situation in which he asks a question in his persona as A and answers himself in his persona as B. You may ask what is gained by taking rising intonation out of its traditional association with questions and putting it into association with the category of turn-taking mechanisms. My answer is that this, at least, has the advantage of making it quite clear that intonation has no power to 'change' speech function.

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